~~Patent Claims~~What is claimed is:

1. A method for producing and applying at least one of an antiscatter grid and~~or~~ ecollimator to at least one of an x-ray and~~or~~ gamma detector having matricially arranged detector elements ~~(16)~~ which form a detector surface with detection regions ~~(16a)~~ sensitive to at least one of x-radiation and~~/or~~ gamma radiation and less sensitive intermediate regions ~~(16b)~~, comprising:

producing a basic structure ~~in the case of which method a basic structure (6) is firstly produced for the antiscatter grid or collimator~~ using ~~by means of~~ a rapid prototyping technique ~~through which~~to form transmission channels ~~(5)~~ and intermediate walls ~~(6a)~~ of at least one of the antiscatter grid and~~or~~ collimator ~~are formed which have~~, including at least in a first direction, a center-to-center spacing ~~which is~~ at least one of equal to and~~or~~ an integral multiple of a center-to-center spacing of the sensitive detection regions ~~(16a)~~ of the detector~~,~~;

coating the intermediate walls ~~(6a) are subsequently coated~~ with a material ~~(14)~~ which strongly absorbs at least one of x-radiation and~~/or~~ gamma radiation ~~in order to finish the antiscatter grid or collimator,~~; and

applying ~~finally~~ at least one of the antiscatter grid and~~or~~ collimator ~~is applied~~ to the detector surface and ~~connected~~ connecting at least one of the antiscatter grid and collimator to the detector surface in such a way that at least one of the intermediate walls ~~(6a)~~ running perpendicular to the first direction and ~~, or~~ their coating ~~(14)~~, are situated over relatively ~~the~~ less sensitive intermediate regions ~~(16b)~~ of the detector surface.

2. The method as claimed in claim 1, ~~characterized in that the~~wherein a method of stereolithography is used as the rapid prototyping technique.

3. The method as claimed in claim 1 ~~or 2~~, ~~characterized in that the~~wherein a geometry of the basic structure ~~(6)~~ is selected corresponding to the matricial arrangement of the detector elements ~~(16)~~ so as to produce a cellular at least one of an antiscatter grid an~~d~~ collimator in the case of which the arrangement of transmission

channels ~~(5)~~ transmissive to at least one of x-radiation and~~/or~~ gamma radiation corresponds to the arrangement of the sensitive detection regions ~~(16a)~~.

4. The method as claimed in ~~one of claims 1 to 3~~claim 1, wherein ~~characterized in that~~ the basic structure ~~(6)~~ is produced from a material which is substantially transparent to at least one of x-radiation and~~/or~~ gamma radiation, and end faces of the intermediate walls ~~(6a)~~ are kept free of the coating with the absorbing material ~~(14)~~.

5. The method as claimed in ~~one of claims 1 to 3, characterized in that~~claim 1, wherein the basic structure ~~(6)~~ is produced from a material which is substantially transparent to at least one of x-radiation and~~/or~~ gamma radiation, and the coating with the absorbing material ~~(14)~~ is removed from end faces of the intermediate walls ~~(6a)~~.

6. The method as claimed in claim 1, wherein ~~one of claims 1 to 5, characterized in that~~ the coating is performed by at least one of sputtering and~~/or~~ electrolytic deposition.

7. The method as claimed in ~~one of claims 1 to 6, characterized in that~~claim 1, wherein at least one of the antiscatter grid and~~or~~ collimator is applied to the detector surface and connected to the detector surface in such a way that in each case a corner region of the coating with the absorbing material ~~(14)~~ of a transmission channel ~~(5)~~ is situated over a switching element ~~(17)~~ of a detector element ~~(16)~~.

8. The method as claimed in ~~one of claims 1 to 7, characterized in that~~ claim 1, wherein at least one of the antiscatter grid and~~or~~ collimator is bonded to the detector surface.

9. The method as claimed in claim 8, ~~characterized in that~~ wherein the bonding is carried out sequentially for juxtaposed subareas of the detector surface.

10. The method as claimed in claim 9, ~~characterized in that~~wherein, ~~before being~~ applied, at least one of the antiscatter grid ~~or~~ and collimator is divided into segments

which correspond to the subareas ~~and are~~, applied sequentially in an individual fashion.

11. The method as claimed in ~~one of claims 1 to 8, characterized in that~~ claim 1, wherein at least one of the antiscatter grid and~~or~~ collimator is applied to the detector surface with the aid of a flip-chip technique.

12. The method as claimed in claim 11, ~~characterized in that~~wherein at least one of the antiscatter grid and~~or~~ collimator is applied to the detector surface with the aid of a holder supporting the basic structure ~~(6)~~.

13. The method as claimed in ~~one of claims 1 to 12, characterized in that~~claim 1, wherein for bonding purposes an adhesive liquid is sprayed onto at least one of the detector surface ~~and/or~~, the antiscatter grid and the ~~or~~ collimator.

14. The method as claimed in ~~one of claims 1 to 12, characterized in that~~claim 1, wherein, for bonding purposes, a thermally melting adhesive is applied to at least one of the detector surface, ~~and/or~~ the antiscatter grid and the ~~or~~ collimator and is briefly melted by a heat source after the application of at least one of the antiscatter grid and~~or~~ collimator to the detector surface.

15. The method as claimed in ~~one of claims 1 to 14, characterized in that~~ claim 1, wherein the basic structure ~~(6)~~ is constructed so as to produce a focused at least one of antiscatter grid and~~or~~ collimator.

16. An x-ray detector ~~having~~comprising matricially arranged detector elements and an antiscatter grid with transmission channels ~~(5)~~ and intermediate walls ~~(6a)~~ with an absorbing coating ~~(14)~~, ~~which is~~ produced and applied by the method ~~as~~ claimed in ~~one of patent~~ claims 1 ~~to 15~~.

17. A gamma detector ~~having~~ comprising matricially arranged detector elements and a collimator with transmission channels ~~(5)~~ and intermediate walls ~~(6a)~~, with an

absorbing coating ~~(14)~~, ~~which is~~ produced and applied ~~as~~ by the method claimed in ~~one of patent~~ claims 1 ~~to 15~~.

18. The method as claimed in claim 2, wherein the coating is performed by at least one of sputtering and electrolytic deposition.

19. The method as claimed in claim 2, wherein at least one of the antiscatter grid and collimator is applied to the detector surface and connected to the detector surface in such a way that in each case a corner region of the coating with the absorbing material of a transmission channel is situated over a switching element of a detector element.

20. The method as claimed in claim 2, wherein at least one of the antiscatter grid and collimator is bonded to the detector surface.

21. The method as claimed in claim 20, wherein the bonding is carried out sequentially for juxtaposed subareas of the detector surface.

22. The method as claimed in claim 21, wherein, before being applied, at least one of the antiscatter grid and collimator is divided into segments which correspond to the subareas, applied sequentially in an individual fashion.

23. An x-ray detector comprising matricially arranged detector elements and an antiscatter grid with transmission channels and intermediate walls with an absorbing coating, produced and applied by the method claimed in claim 2.

24. A gamma detector comprising matricially arranged detector elements and a collimator with transmission channels and intermediate walls with an absorbing coating, produced and applied by the method claimed in claim 2.

25. An x-ray detector comprising matricially arranged detector elements and an antiscatter grid with transmission channels and intermediate walls with an absorbing coating, produced and applied by the method claimed in claim 3.

26. A gamma detector comprising matricially arranged detector elements and a collimator with transmission channels and intermediate walls with an absorbing coating, produced and applied by the method claimed in claim 3.

27. An x-ray detector comprising matricially arranged detector elements and an antiscatter grid with transmission channels and intermediate walls with an absorbing coating, produced and applied by the method claimed in claim 4.

28. A gamma detector comprising matricially arranged detector elements and a collimator with transmission channels and intermediate walls with an absorbing coating, produced and applied by the method claimed in claim 4.

29. An x-ray detector comprising matricially arranged detector elements and an antiscatter grid with transmission channels and intermediate walls with an absorbing coating, produced and applied by the method claimed in claim 5.

30. A gamma detector comprising matricially arranged detector elements and a collimator with transmission channels and intermediate walls with an absorbing coating, produced and applied by the method claimed in claim 5.

31. A method for producing and applying at least one of an antiscatter grid and collimator to at least one of an x-ray and gamma detector, comprising:

forming transmission channels and intermediate walls of at least one of the antiscatter grid and collimator using a rapid prototyping technique, including at least in a first direction, a center-to-center spacing at least an integral multiple of a center-to-center spacing of sensitive detection regions of the detector;

coating the intermediate walls with a material which strongly absorbs at least one of x-radiation and gamma radiation; and

applying the at least one of the antiscatter grid and collimator to the detector surface and connecting the at least one of the antiscatter grid and collimator to the detector surface in such a way that at least one of the intermediate walls running perpendicular to the first direction and their coating, are situated over relatively less sensitive intermediate regions of the detector surface.

32. The method as claimed in claim 31, wherein a method of stereolithography is used as the rapid prototyping technique.

33. An x-ray detector comprising matricially arranged detector elements and an antiscatter grid with transmission channels and intermediate walls with an absorbing coating, produced and applied by the method claimed in claim 31.

34. A gamma detector comprising matricially arranged detector elements and a collimator with transmission channels and intermediate walls with an absorbing coating, produced and applied by the method claimed in claim 31.